

Mineral Industry Surveys

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NICKEL IN FEBRUARY 2000

In February, reported domestic nickel consumption on a daily average basis was 13% greater than that of January, according to the U.S. Geological Survey. Average daily consumption by the stainless steel industry in February was 13% greater than the revised January average of 109 metric tons (t). The increase for stainless steel was partially offset by decreases in the alloy steel, superalloy, and copper-nickel alloy categories. Daily consumption by alloy steel producers—a considerably smaller tonnage than that of stainless steel—decreased by 6%. Consumption of elemental nickel to make copper-nickel alloys decreased by 9%. Sales to plating companies averaged 39 metric tons per day (t/d), up 19% from the January sales figure. Percentages reported in this paragraph may not be verifiable owing to concealment of individual company proprietary data.

On February 29, U.S. consumer stocks of cathode, pellets, briquets, and powder totaled 2,510 t—slightly less than the 2,550 t (revised) for January 31 and 56% less than the 1999 high of 5,770 t reached on January 31 a year ago. Stocks in London Metal Exchange (LME) warehouses worldwide decreased 17% during February to 35,250 t. LME stocks were 46,962 t at yearend 1999, down from 65,964 t at yearend 1998. Preliminary data collected by the International Nickel Study Group indicated that, at the end of January 2000, world nickel producers (excluding those in Austria, China, the former Yugoslavia, and the Ural area of Russia) had approximately 92,600 t of Ni in primary products in stock, of which 68,500 t were Class I materials. Class I materials are refined products with a nickel content of 99% or greater (electrolytic cathode, pellets, briquets, rondelles, powder, etc.). Class II materials include ferronickel, nickel oxide sinter, and East Asian utility nickel—products with a nickel content less than 99%.

The United States imported 140,000 t of primary nickel in 1999, 6% less than the 148,000 t for 1998. Class I materials accounted for 85% of total primary imports received during 1999. Trade data for February 2000 will appear in a subsequent issue.

Nickel exploration accelerates in the Sudbury region of Canada

Inco Limited and two major producers of platinum-group metals (PGM) have accelerated exploration efforts in the Sudbury region of Ontario, northwest of Lake Nipissing. Higher nickel prices, improved PGM fundamentals, and two recent discoveries of nickel-copper sulfides on the southern perimeter of the Sudbury Basin have encouraged Inco and other mining companies to increase funding for exploration activities in the region. Pentlandite, the principal nickel mineral at Sudbury, is sometimes accompanied by froodite (PdBi_2), sperrylite (PtAs_2) and other trace minerals of the platinum-group elements. Demand for PGM has exceeded supply in recent months. Much of the palladium is used in catalytic converters for automobiles. Russia had been providing up to 70% of the world's palladium supplies, and consumers have become increasingly concerned about the reliability of Russian PGM exports (Mining Journal, 2000c).

Kelly Lake deposit.—In 1997, Inco geologists identified a significant nickel-PGM deposit at Kelly Lake, 2 kilometers south of Copper Cliff and Highway 17 (Inco Limited, 2000a; Mining Journal, 2000b). The principal ore zone is at a depth of 1,370 meters. According to company officials, the Kelly Lake deposit has 10.5 million t of resources averaging 1.77% nickel (Ni), 1.34% copper (Cu), and 3.6 grams per ton (g/t) PGM. The deposit reportedly is accessible from existing mine workings near Inco's Copper Cliff South Mine. Inco management is expected to decide later this year when the deposit should be brought into production.

Totten Mine deposit.—In late 1999, an Inco exploration team discovered sizable resources in and around the Totten Mine, near Worthington on the Canadian Pacific Railway. Subsequent drilling indicated that the Totten deposit has at least 8.4 million t of resources averaging 1.42% Ni, 1.90% Cu, and 4.7 g/t PGM (Inco Limited, 2000b). This estimate includes 1.6 million t of inferred resources grading 1.26% Ni, 1.90% Cu, and 5.7 g/t PGM. The deposit is still open at depth. The latest drillhole data suggest that mineralization continues to the south and that metal grades increase with depth. Geophysical surveys have identified several

new targets for future drilling (Mining Journal, 2000e).

The Kelly Lake and Totten deposits both have average nickel and PGM concentrations higher than those being mined by Inco's Ontario Division. The average ore grade for the Division currently is 1.41% Ni, 1.40% Cu, and 1.8 g/t PGM. Because of the two new finds, Inco is planning to spend US\$7.7 million in 2000 exploring several high potential targets in the region. This would be Inco's highest annual exploration expenditure (in nominal dollars) in Ontario since the 1970's.

Other nickel-PGM targets.—Anglo American Platinum Corp. Ltd. (Amplats) of Johannesburg, South Africa, has teamed up with Pacific Northwest Capital Corp. (PNWC) of Vancouver, BC, to evaluate the River Valley mafic intrusion, 50 kilometers east of Sudbury. The intrusion is a layered gabbro-anorthosite complex, with elevated PGM values near its contact with the country rock (Mining Journal, 2000d). Mustang Minerals Corp. of Toronto, ON, and Impala Platinum Corp. of Johannesburg, South Africa, have joined forces to explore parts of the intrusion adjoining PNWC's license area (Mining Journal, 2000d).

Mustang also is exploring a second gabbro-anorthosite complex at East Bull Lake, 80 kilometers west of Sudbury. Again, PGM values appear to be enriched at the margins of the intrusion (Mining Journal, 2000a).

Correction

On April 5, 2000, OM Group Inc. (OMG) bought the Harjavalta nickel plant in Finland from Outokumpu Oyj. The dollar value of the transaction was incorrectly stated in the previous issue, Nickel in January 2000. OMG paid Outokumpu EUR 180 million in cash, which was equivalent at the time to about US\$172million. On April 6, one euro was quoted at US\$0.9583.

References Cited

- Inco Limited, 2000a, Inco's exploration strategy paying off in Kelly Lake deposit near Sudbury: Toronto, Ontario, Inco Media Information IN 04/00, March 6, 1 p.
- 2000b, Inco reports strong exploration results for high-grade discovery near Sudbury: Toronto, Ontario, Inco Media Information IN 06/00, April 12, 1 p.
- Mining Journal, 2000a, East Bull Lake intercepts: Mining Journal [London], v. 334, no. 8574, March 17, p. 213.
- 2000b, New mine for Inco?: Mining Journal [London], v. 334, no. 8573, March 10, p. 198.
- 2000c, Palladium and potatoes: Mining Journal [London], v. 334, no. 8579, April 21, p. 298.
- 2000d, PGM exploration accelerates: Mining Journal [London], v. 334, no. 8578, April 14, p. 285-286.
- 2000e, Top Totten results encourage Inco: Mining Journal [London], v. 334, no. 8579, April 21, p. 305.

TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE 1/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
1999:					
February	6,540	824	669	8,030	15,700
March	7,840	487	817	9,150	24,900
April	7,680	845	602	9,130	34,000
May	8,050	1,150	695	9,900	43,900
June	8,310	1,200	695	10,200	54,100
July	7,480 r/	1,160	481	9,110 r/	63,200 r/
August	7,160 r/	1,000	349	8,510 r/	71,700 r/
September	7,240 r/	1,490	321	9,050 r/	80,800 r/
October	6,850 r/	1,170	288	8,310 r/	89,100 r/
November	6,850 r/	1,210	457	8,520 r/	97,600 r/
December	7,220 r/	1,060	871	9,160 r/	107,000 r/
January-December	87,500 r/	12,600	6,640	107,000 r/	XX
2000:					
January r/	6,950	1,380	574	8,900	8,900
February:					
Steel:					
Stainless and heat resisting	1,950	1,340	W	3,290	6,280
Alloy (excludes stainless)	337	W	W	337	705
Superalloys	1,340	--	W	1,340	2,800
Copper-nickel alloys	W	W	--	W	W
Electric, magnetic, and expansion alloys	37	--	--	37	71
Other nickel & nickel alloys	W	--	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	1,120	--	--	1,120	2,130
Chemical and chemical uses	W	--	--	W	W
Other uses	2,870	9	442	3,330	6,370
Total reported	7,660 2/	1,350	442	9,450	18,300
Total all companies (calc) 3/	XX	XX	XX	14,000	27,300
2000: January-February	14,600	2,730	1,020	18,300	XX
1999: January-February	12,800	1,810	1,070	15,700	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Of consumption, 6,380 metric tons was consumed as cathodes and pellets, the remainder as briquets and powder.

3/ Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (67.27%) to apparent primary consumption for 1998.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,
BY FORM AND USE 1/ 2/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
1999:				
February	4,410	112	989	5,510
March	3,580	354	431	4,360
April	3,120	97	364	3,580
May	3,600	145	351	4,100
June	3,840	110	312	4,260
July	3,560	170	263	4,000
August	3,020	315	269	3,610
September	3,150	202	447	3,800
October	3,040	320	507	3,870
November	3,580	441	597	4,620
December	2,690	416	410	3,520
2000:				
January r/	2,550	317	362	3,230
February:				
Steel (stainless, heat resisting and alloy)	1,130	224	338	1,690
Nonferrous alloys 4/	1,280	--	(3/)	1,280
Foundry (cast irons)	(3/)	--	(3/)	(3/)
Chemical (catalysts, ceramics, plating salts, etc.) and unspecified uses	100	--	46	146
Total	2,510	224	384	3,120

r/ Revised. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Stocks held by companies that consume nickel in more than one end-use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustment.

3/ Included in the "Chemical and unspecified uses" category.

4/ Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE 1/

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap
1999:						
February	3,800	748	4,550	4,250	156	4,400
March	3,890	850	4,740	4,240	159	4,400
April	3,990	963	4,950	3,650	160	3,810
May	4,360	700	5,060	3,190	171	3,360
June	4,610	1,320	5,930	2,780	217	3,000
July	3,740	1,070	4,810	2,590	177	2,760
August	4,120	1,090	5,200	2,530	167	2,700
September	4,950	1,030	5,980	2,890	157	3,040
October	4,770	1,260	6,030	2,700	156	2,860
November	5,860	1,160	7,020	2,790	150	2,940
December	5,100	869	5,970	3,680	692	4,370
January-December	53,300	11,900	65,200	XX	XX	XX
2000:						
January	5,760	1,240	7,010	3,440	702	4,140
February	5,500	1,220	6,730	3,680	706	4,380
2000: January-February	11,300	2,470	13,700	XX	XX	XX
1999: January-February	7,960	1,550	9,510	XX	XX	XX

XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

3/ Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1998:										
January-December	120,000	9,850	12,800	2,140	4,210	4,290	3,140	157,000	XX	819
1999:										
January	9,930	697	1,230	185	281	160	181	12,700	12,700	83
February	6,540	783	1,440	302	265	211	240	9,780	22,400	23
March	10,700	926	836	366	394	178	235	13,600	36,100	78
April	6,230	769	1,150	306	414	181	302	9,350	45,400	103
May	9,940	575	860	231	428	303	190	12,500	57,900	80
June	13,000	1,080	1,550	399	260	415	241	16,900	74,800	58
July	5,910	939	1,730	--	330	243	232	9,380	84,200	105
August	9,280	790	1,310	285	316	263	161	12,400	96,600	110
September	13,800	818	1,240	243	192	270	270	16,800	113,000	120
October	6,100	748	1,190	224	526	335	238	9,370	123,000	106
November	10,400	741	1,080	269	685	1,800	219	15,200	138,000	124
December	7,740	511	996	459	428	603	296	11,000	149,000	95
January-December	109,000	9,380	14,600	3,270	4,520	4,960	2,810	149,000	XX	1,090
2000:										
January:										
Australia	1,230	223	--	--	--	--	--	1,460	1,460	--
Brazil	400	--	--	--	--	14	--	414	414	--
Canada	4,220	537	--	323	246	288	(5/)	5,620	5,620	1
Colombia	--	--	191	--	--	--	--	191	191	--
Dominican Republic	--	--	708	--	--	3	--	712	712	--
Finland	287	67	--	--	--	--	68	422	422	--
France	114	1	--	--	39	--	2	156	156	2
Germany	27	(5/)	--	--	64	--	17	108	108	27
Japan	--	(5/)	--	--	7	1	51	60	60	6
Mexico	--	--	--	--	57	186	2	245	245	--
New Caledonia	--	--	503	--	--	--	--	503	503	--
Norway	616	--	--	--	7	--	--	623	623	--
Russia	2,820	104	--	--	--	--	--	2,920	2,920	--
South Africa	104	--	--	--	--	--	17	121	121	--
United Kingdom	775	11	--	--	44	--	1	830	830	2
Zimbabwe	212	--	--	--	--	--	--	212	212	--
Other	131 (6	55	--	--	57	9	69	321	321	15
Total	10,900	998	1,400	323	521	501	227	14,900	14,900	53
2000: January	10,900	998	1,400	323	521	501	227	14,900	XX	53
1999: January	9,930	697	1,230	185	281	160	181	12,700	XX	83

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

6/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date	Wrought nickel
1998:										
January-December	1,210	1,080	918	1,230	12,700	22,400	4,010	43,500	XX	991
1999:										
January	93	60	--	100	615	787	337	1,990	1,990	149
February	11	93	3	168	812	1,010	337	2,440	4,430	59
March	36	90	1	105	958	1,850	460	3,500	7,930	63
April	15	69	1	161	989	2,070	334	3,640	11,600	77
May	78	44	--	102	920	1,600	523	3,270	14,800	121
June	54	85	2	94	979	1,950	200	3,360	18,200	59
July	65	76	6	105	725	1,310	363	2,650	20,800	52
August	142	82	9	181	945	1,280	256	2,900	23,700	69
September	74	60	30	230	1,230	1,830	220	3,670	27,400	52
October	105	89	--	57	1,230	2,290	461	4,230	31,600	58
November	74	95	--	108	1,340	1,170	229	3,020	34,700	98
December	85	65	9	60	1,230	2,330	444	4,220	38,900	65
January-December	831	909	59	1,470	12,000	19,500	4,170	38,900	XX	922
2000:										
January:										
Australia	--	--	--	--	--	--	--	--	--	(4/)
Belgium	--	(4/)	--	--	24	1	(4/)	26	26	2
Canada	152	28	5	111	846	188	12	1,340	1,340	26
Germany	--	7	6	1	--	27	23	64	64	3
India	--	--	--	--	--	30	(4/)	30	30	--
Italy	--	(4/)	--	--	--	--	4	4	4	2
Japan	--	2	--	--	149	421	16	588	588	3
Korea, Republic of	--	1	--	--	--	454	3	458	458	2
Mexico	95	21	--	--	--	34	8	158	158	5
Netherlands	--	(4/)	--	16	--	--	1	17	17	--
South Africa	--	--	--	--	4	83	1	88	88	--
Spain	--	--	--	--	--	380	--	380	380	--
Sweden	--	--	--	--	16	1	4	21	21	--
Taiwan	--	13	--	--	--	400	1	413	413	(4/)
United Kingdom	(4/)	1	--	--	6	--	(4/)	8	8	25
Other	111	14	--	--	80	17	63	283	283	18
Total	358	87	11	128	1,130	2,040	136	3,880	3,880	86
2000: January	358	87	11	128	1,130	2,040	136	3,880	XX	86
1999: January	93	60	--	100	615	787	337	1,990	XX	149

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
1998:									
December	130	276	261	189	--	112	16	984	12,100
January-December	2,250	2,140	3,710	1,860	20	1,600	559	12,100	XX
1999:									
January	239	188	277	166	--	120	38	1,030	1,030
February	198	253	339	172	1	37	48	1,050	2,080
March	291	311	427	200	2	135	79	1,450	3,520
April	265	222	344	137	2	33	72	1,080	4,600
May	248	174	348	242	(2/)	244	75	1,330	5,930
June	248	162	373	298	1	74	52	1,210	7,140
July	209	180	341	201	1	94	63	1,090	8,220
August	172	124	332	268	(2/)	65	46	1,010	9,230
September	128	158	246	192	10	35	109	878	10,100
October	85	137	336	281	(2/)	85	95	1,020	11,100
November	141	151	347	146	10	200	70	1,070	12,200
December	145	158	391	224	7	105	73	1,100	13,300
January-December	2,370	2,220	4,100	2,530	34	1,230	818	13,300	XX
2000:									
January:									
Australia	64	--	--	--	--	--	--	64	64
Belgium	--	--	--	(2/)	--	--	(2/)	(2/)	(2/)
Canada	2	--	2	--	--	2	5	11	11
France	--	18	101	32	--	12	(2/)	163	163
Germany	1	49	67	146	--	31	6	300	300
Italy	--	42	3	--	--	(2/)	1	46	46
Japan	(2/)	--	2	2	1	10	5	20	20
Mexico	--	--	--	--	--	--	67	67	67
Netherlands	--	--	--	(2/)	--	--	1	1	1
South Africa	59	--	--	--	--	--	--	59	59
Sweden	--	2	163	(2/)	--	9	--	174	174
United Kingdom	41	32	(2/)	(2/)	(2/)	13	13	99	99
Other	--	13	10	--	--	(2/)	47	70	70
Total	167	156	348	180	1	77	145	1,070	1,070
2000: January	167	156	348	180	1	77	145	1,070	XX
1999: January	239	188	277	166	--	120	38	1,030	XX

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
1998:									
December	577	456	171	472	1	56	218	1,950	26,000
January-December	5,970	4,150	2,500	9,100	95	1,160	3,040	26,000	XX
1999:									
January	573	264	170	575	14	104	655	2,360	2,360
February	1,090	370	129	723	6	103	263	2,680	5,040
March	896	496	163	688	7	48	206	2,500	7,540
April	910	349	168	688	72	72	266	2,530	10,100
May	545	396	181	614	3	63	193	2,000	12,100
June	682	363	225	620	5	63	272	2,230	14,300
July	702	330	192	486	4	46	483	2,240	16,500
August	643	184	322	570	7	53	273	2,050	18,600
September	806	363	139	542	6	54	164	2,080	20,700
October	927	340	145	538	5	82	204	2,240	22,900
November	595	360	193	679	19	83	352	2,280	25,200
December	771	371	148	546	16	58	215	2,130	27,300
January-December	9,140	4,190	2,180	7,270	164	829	3,550	27,300	27,300
2000:									
January:									
Australia	20	--	--	(2/)	--	9	1	29	29
Belgium	(2/)	74	(2/)	15	--	1	(2/)	91	91
Canada	46	53	31	33	1	57	43	264	264
France	450	35	10	55	--	1	17	568	568
Germany	34	4	3	94	--	2	4	141	141
India	--	2	--	2	--	(2/)	--	4	4
Ireland	--	--	6	2	--	--	(2/)	8	8
Italy	31	50	9	99	--	--	1	190	190
Japan	--	2	1	34	--	1	5	43	43
Korea, Republic of	1	4	3	39	--	(2/)	15	63	63
Mexico	2	(2/)	42	13	(2/)	3	10	71	71
Netherlands	--	--	(2/)	2	--	(2/)	4	7	7
Singapore	--	5	1	78	--	(2/)	5	89	89
Spain	(2/)	(2/)	--	--	--	1	(2/)	1	1
Sweden	5	(2/)	--	3	--	--	--	8	8
Switzerland	1	1	--	12	--	1	1	17	17
Taiwan	--	--	1	28	--	1	(2/)	30	30
United Kingdom	47	72	54	351	(2/)	1	15	540	540
Other	29	21	(2/)	26	--	4	37	115	115
Total	666	323	161	886	1	82	158	2,280	2,280
2000: January	666	323	161	886	1	81	158	2,280	XX
1999: January	573	264	170	575	14	104	655	2,360	XX

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
February 2000:		
Stainless and heat resisting steels	82	18
Alloy steels	100	(1/)
Superalloys	85	15
Copper-nickel alloys	99	1
Other nickel-base alloys	100	(1/)

1/ Less than 1/2 unit.

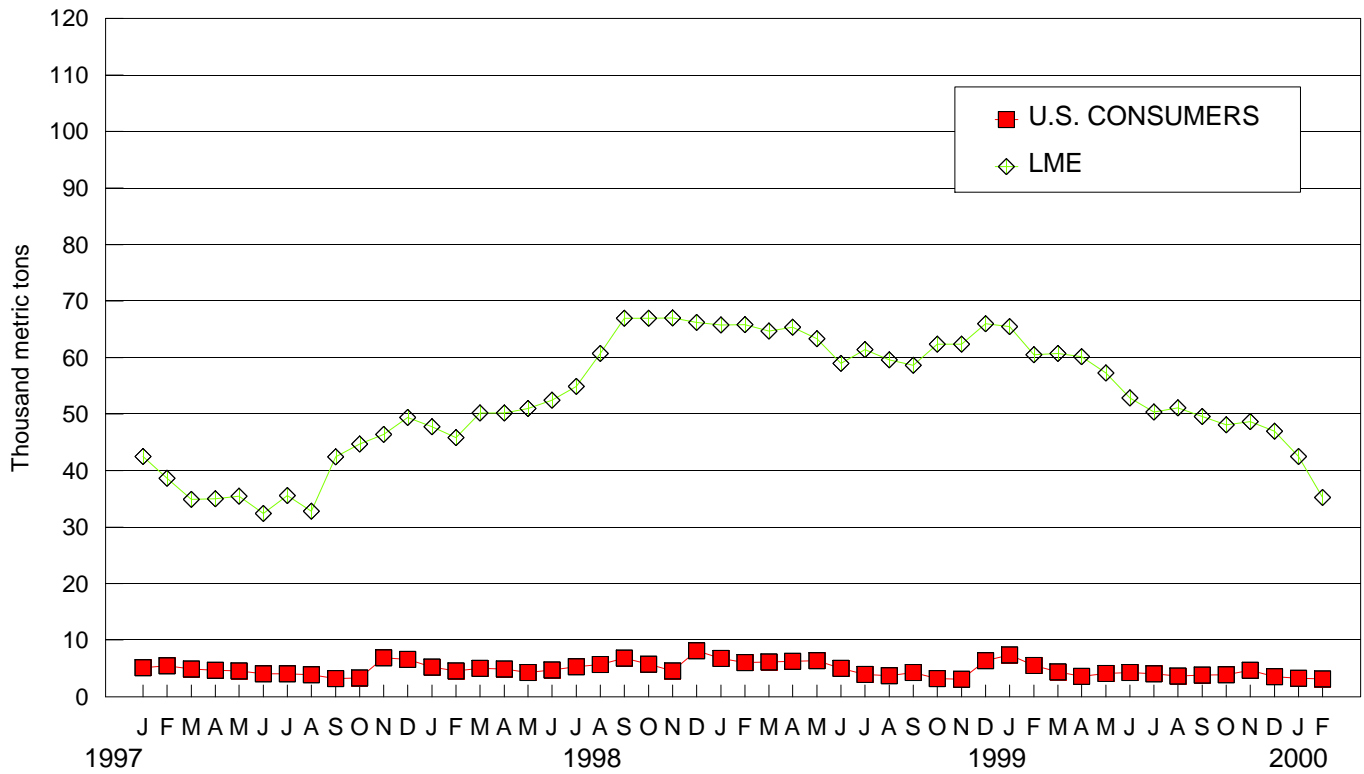
TABLE 9
NICKEL PRICES

Date		Cathode NY Dealer \$/lb.	LME Cash \$/t	LME Cash \$/lb.	18/8 Stainless steel scrap Pittsburgh \$/long ton (gw)
1999:					
Yearly average p/		2.750	6,011.227	2.727	625
2000:					
Average for week ending:					
February	4	4.01-4.15	8,878.500	4.027	860-870
February	11	4.26-4.44	9,381.000	4.255	860-870
February	18	4.57-4.64	9,846.000	4.466	860-870
February	25	4.66-4.82	10,212.500	4.632	860-870
March	3	4.58-4.81	10,110.500	4.586	860-870
March	10	4.73-4.95	10,440.000	4.736	960-980
March	17	4.77-4.94	10,192.000	4.623	960-980
March	24	4.82-4.93	10,382.000	4.709	960-980
March	31	4.68-4.83	10,131.000	4.595	960-980
Average for month of:					
February		4.375	9,653.333	4.379	865
March		4.716	10,280.109	4.663	949

p/ Preliminary.

Source: Platt's Metals Week and American Metal Market.

1997-2000 STOCKS



1997-2000 AVERAGE MONTHLY PRICES

(Derived from Metals Week and American Metal Market quotations)

